



## RAW SEQUENCE LISTING ERROR REPORT

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Application Serial Number: 10/516,490  
Source: PCT  
Date Processed by STIC: 12-10-04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

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- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

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1. EFS-Bio (<<http://www.uspto.gov/ebs/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
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U.S. Patent and Trademark Office, 220 20<sup>th</sup> Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04



PCT

## RAW SEQUENCE LISTING

DATE: 12/10/2004

PATENT APPLICATION: US/10/516,490

TIME: 14:12:36

Input Set : A:\X15642.NatlPhase.ST25.txt

Output Set: N:\CRF4\12102004\J516490.raw

3 <110> APPLICANT: Richard Dennis DiMarchi  
 4 David Lee Smiley  
 5 Lianshan Zhang  
 7 <120> TITLE OF INVENTION: MODIFIED GLUCAGON-LIKE PEPTIDE-1 ANALOGS  
 9 <130> FILE REFERENCE: X-15642 National Phase  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/516,490  
 C--> 11 <141> CURRENT FILING DATE: 2004-12-01  
 11 <160> NUMBER OF SEQ ID NOS: 24  
 13 <170> SOFTWARE: PatentIn version 3.2  
 15 <210> SEQ ID NO: 1  
 16 <211> LENGTH: 31  
 17 <212> TYPE: PRT  
 18 <213> ORGANISM: Artificial  
 20 <220> FEATURE:  
 21 <223> OTHER INFORMATION: Synthetic constructs  
 24 <220> FEATURE:  
 25 <221> NAME/KEY: MISC\_FEATURE  
 26 <222> LOCATION: (1)..(1)  
 27 <223> OTHER INFORMATION: Xaa= L-histidine, D-histidine, desamino-histidine,  
 28 2-amino-histidine, beta-hydroxy-  
 29 histidine, homohistidine, alpha-fluoromethyl-histidine, or alpha  
 30 methyl-histidine  
 32 <220> FEATURE:  
 33 <221> NAME/KEY: MISC\_FEATURE  
 34 <222> LOCATION: (2)..(2)  
 35 <223> OTHER INFORMATION: Xaa= Ala, Gly, Val, Leu, Ile, Ser, or Thr  
 37 <220> FEATURE:  
 38 <221> NAME/KEY: MISC\_FEATURE  
 39 <222> LOCATION: (6)..(6)  
 40 <223> OTHER INFORMATION: Xaa= Phe, Trp, or Tyr  
 42 <220> FEATURE:  
 43 <221> NAME/KEY: MISC\_FEATURE  
 44 <222> LOCATION: (10)..(10)  
 45 <223> OTHER INFORMATION: Xaa= Val, Trp, Ile, Leu, Phe, or Tyr  
 47 <220> FEATURE:  
 48 <221> NAME/KEY: MISC\_FEATURE  
 49 <222> LOCATION: (12)..(12)  
 50 <223> OTHER INFORMATION: Xaa= Ser, Trp, Tyr, Phe, Lys, Ile, Leu, Val  
 52 <220> FEATURE:  
 53 <221> NAME/KEY: MISC\_FEATURE  
 54 <222> LOCATION: (13)..(13)  
 55 <223> OTHER INFORMATION: Xaa= Tyr, Trp, or Phe  
 57 <220> FEATURE:

Does Not Comply  
 Corrected Diskette Needed

## RAW SEQUENCE LISTING

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Input Set : A:\X15642.NatlPhase.ST25.txt

Output Set: N:\CRF4\12102004\J516490.raw

```

58 <221> NAME/KEY: MISC_FEATURE
59 <222> LOCATION: (14)..(14)
60 <223> OTHER INFORMATION: Xaa= Leu, Phe, Tyr, or Trp
62 <220> FEATURE:
63 <221> NAME/KEY: MISC_FEATURE
64 <222> LOCATION: (16)..(16)
65 <223> OTHER INFORMATION: Xaa= Gly, Glu, Asp, Lys
67 <220> FEATURE:
68 <221> NAME/KEY: MISC_FEATURE
69 <222> LOCATION: (19)..(19)
70 <223> OTHER INFORMATION: Xaa= Ala, Val, Ile, or Leu
72 <220> FEATURE:
73 <221> NAME/KEY: MISC_FEATURE
74 <222> LOCATION: (21)..(21)
75 <223> OTHER INFORMATION: Xaa= Glu, Ile, or Ala
77 <220> FEATURE:
78 <221> NAME/KEY: MISC_FEATURE
79 <222> LOCATION: (24)..(24)
80 <223> OTHER INFORMATION: Xaa= Ala, or Glu
82 <220> FEATURE:
83 <221> NAME/KEY: MISC_FEATURE
84 <222> LOCATION: (27)..(27)
85 <223> OTHER INFORMATION: Xaa= Val, or Ile
87 <220> FEATURE:
88 <221> NAME/KEY: MISC_FEATURE
89 <222> LOCATION: (31)..(31)
90 <223> OTHER INFORMATION: Xaa= L-Cys, D-Cys, homocysteine, or penicillamine
92 <400> SEQUENCE: 1
W--> 94 Xaa Xaa Glu Gly Thr Xaa Thr Ser Asp Xaa Ser Xaa Xaa Xaa Glu Xaa
      95 1          5          10          15
      98 Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Lys Gly Arg Xaa
      99          20          25          30
102 <210> SEQ ID NO: 2
103 <211> LENGTH: 31
104 <212> TYPE: PRT
105 <213> ORGANISM: Artificial
107 <220> FEATURE:
108 <223> OTHER INFORMATION: Synthetic construct
111 <220> FEATURE:
112 <221> NAME/KEY: MISC_FEATURE
113 <222> LOCATION: (1)..(1)
114 <223> OTHER INFORMATION: Xaa= L-histidine, D-histidine, desamino-histidine,
115      2-amino-histidien, beta-hydroxy-
116      histidine, homohistidine, alpha-fluoromethyl-histidine, or
117      alpha-methyl-histidine
119 <220> FEATURE:
120 <221> NAME/KEY: MISC_FEATURE
121 <222> LOCATION: (2)..(2)
122 <223> OTHER INFORMATION: Xaa= Gly, Ala, Val, Leu, Ile, Ser or Thr

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/516,490

DATE: 12/10/2004

TIME: 14:12:36

Input Set : A:\X15642.Nat1Phase.ST25.txt

Output Set: N:\CRF4\12102004\J516490.raw

124 <220> FEATURE:  
 125 <221> NAME/KEY: MISC\_FEATURE  
 126 <222> LOCATION: (10)..(10)  
 127 <223> OTHER INFORMATION: Xaa = Val, Phe, Tyr, or Trp  
 129 <220> FEATURE:  
 130 <221> NAME/KEY: MISC\_FEATURE  
 131 <222> LOCATION: (12)..(12)  
 132 <223> OTHER INFORMATION: Xaa = Ser, Tyr, Trp, Phe, Lys, Ile, Leu, or Val  
 134 <220> FEATURE:  
 135 <221> NAME/KEY: MISC\_FEATURE  
 136 <222> LOCATION: (16)..(16)  
 137 <223> OTHER INFORMATION: Xaa = Gly, Clu, Asp, or Lys  
 139 <220> FEATURE:  
 140 <221> NAME/KEY: MISC\_FEATURE  
 141 <222> LOCATION: (19)..(19)  
 142 <223> OTHER INFORMATION: Xaa = Ala, Val, Ile, or Leu  
 144 <220> FEATURE:  
 145 <221> NAME/KEY: MISC\_FEATURE  
 146 <222> LOCATION: (27)..(27)  
 147 <223> OTHER INFORMATION: Xaa = Val or Ile  
 149 <220> FEATURE:  
 150 <221> NAME/KEY: MISC\_FEATURE  
 151 <222> LOCATION: (31)..(31)  
 152 <223> OTHER INFORMATION: Xaa = L-Cys, D-Cys, homocysteine, or penicillamine  
 154 <400> SEQUENCE: 2  
 W--> 156 Xaa Xaa Glu Gly Thr Phe Thr Ser Asp Xaa Ser Xaa Tyr Leu Glu Xaa  
 157 1 5 10 15  
 160 Gln Ala Xaa Lys Glu Phe Ile Ala Trp Leu Xaa Lys Gly Arg Xaa  
 161 20 25 30  
 164 <210> SEQ ID NO: 3  
 165 <211> LENGTH: 42  
 166 <212> TYPE: PRT  
 167 <213> ORGANISM: Artificial  
 169 <220> FEATURE:  
 170 <223> OTHER INFORMATION: Synthetic construct  
 173 <220> FEATURE:  
 174 <221> NAME/KEY: MISC\_FEATURE  
 175 <222> LOCATION: (1)..(1)  
 176 <223> OTHER INFORMATION: Xaa = L-histidine, D-histidine, desamino-histidine,  
 177 2-amino-histidine, beta-hydroxy-  
 178 histidine, homohistidine, alpha-fluoromethyl-histidine, or  
 179 alpha-methyl-histidine  
 181 <220> FEATURE:  
 182 <221> NAME/KEY: MISC\_FEATURE  
 183 <222> LOCATION: (2)..(2)  
 184 <223> OTHER INFORMATION: Xaa = Ala, Gly, Val, Leu, Ile, Ser, or Thr  
 186 <220> FEATURE:  
 187 <221> NAME/KEY: MISC\_FEATURE  
 188 <222> LOCATION: (6)..(6)

Invalid amino  
Acid  
designator

The type of errors shown exist throughout  
the Sequence Listing. Please check subsequent  
sequences for similar errors.

## RAW SEQUENCE LISTING

DATE: 12/10/2004

PATENT APPLICATION: US/10/516,490

TIME: 14:12:36

Input Set : A:\X15642.NatlPhase.ST25.txt

Output Set: N:\CRF4\12102004\J516490.raw

189 <223> OTHER INFORMATION: Xaa = Phe, Trp, or Tyr  
191 <220> FEATURE:  
192 <221> NAME/KEY: MISC\_FEATURE  
193 <222> LOCATION: (10)..(10)  
194 <223> OTHER INFORMATION: Xaa = Val, Trp, Ile, Leu, Phe, or Tyr.  
196 <220> FEATURE:  
197 <221> NAME/KEY: MISC\_FEATURE  
198 <222> LOCATION: (12)..(12)  
199 <223> OTHER INFORMATION: Xaa = Ser, Trp, Tyr, Phe, Lys, Ile, Leu, Val  
201 <220> FEATURE:  
202 <221> NAME/KEY: MISC\_FEATURE  
203 <222> LOCATION: (13)..(13)  
204 <223> OTHER INFORMATION: Xaa = Tyr, Trp, or Phe  
206 <220> FEATURE:  
207 <221> NAME/KEY: MISC\_FEATURE  
208 <222> LOCATION: (14)..(14)  
209 <223> OTHER INFORMATION: Xaa = Leu, Phe, Tyr, or Trp  
211 <220> FEATURE:  
212 <221> NAME/KEY: MISC\_FEATURE  
213 <222> LOCATION: (16)..(16)  
214 <223> OTHER INFORMATION: Xaa = Gly, Glu, Asp, or Lys  
216 <220> FEATURE:  
217 <221> NAME/KEY: MISC\_FEATURE  
218 <222> LOCATION: (19)..(19)  
219 <223> OTHER INFORMATION: Xaa = Ala, Val, Ile, or Leu  
221 <220> FEATURE:  
222 <221> NAME/KEY: MISC\_FEATURE  
223 <222> LOCATION: (21)..(21)  
224 <223> OTHER INFORMATION: Xaa = Glu, Ile, or Ala  
226 <220> FEATURE:  
227 <221> NAME/KEY: MISC\_FEATURE  
228 <222> LOCATION: (24)..(24)  
229 <223> OTHER INFORMATION: Xaa = Ala or Glu  
231 <220> FEATURE:  
232 <221> NAME/KEY: MISC\_FEATURE  
233 <222> LOCATION: (27)..(27)  
234 <223> OTHER INFORMATION: Xaa = Val or Ile  
236 <220> FEATURE:  
237 <221> NAME/KEY: MISC\_FEATURE  
238 <222> LOCATION: (28)..(28)  
239 <223> OTHER INFORMATION: Xaa = Lys, Asp, Arg, or Glu  
241 <220> FEATURE:  
242 <221> NAME/KEY: MISC\_FEATURE  
243 <222> LOCATION: (30)..(30)  
244 <223> OTHER INFORMATION: Xaa = Gly, Pro, or Arg  
246 <220> FEATURE:  
247 <221> NAME/KEY: MISC\_FEATURE  
248 <222> LOCATION: (31)..(31)  
249 <223> OTHER INFORMATION: Xaa = Gly, Pro, Ser, L-Cys, D-Cys, homocysteine, or  
penicillamine

## RAW SEQUENCE LISTING

DATE: 12/10/2004

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TIME: 14:12:36

Input Set : A:\X15642.NatlPhase.ST25.txt

Output Set: N:\CRF4\12102004\J516490.raw

251 <220> FEATURE:  
 252 <221> NAME/KEY: MISC\_FEATURE  
 253 <222> LOCATION: (32)..(32)  
 254 <223> OTHER INFORMATION: Xaa = Ser, Pro, His, L-Cys, D-Cys, homocysteine,  
 penicillamine,  
 255 NH2  
 257 <220> FEATURE:  
 258 <221> NAME/KEY: MISC\_FEATURE  
 259 <222> LOCATION: (33)..(33)  
 260 <223> OTHER INFORMATION: Xaa = Ser, Arg, Thr, Trp, Lys, L-Cys, D-Cys, homocysteine,  
 261 penicillamine, NH2 or  
 262 is absent  
 264 <220> FEATURE:  
 265 <221> NAME/KEY: MISC\_FEATURE  
 266 <222> LOCATION: (34)..(34)  
 267 <223> OTHER INFORMATION: Xaa = Ser, Gly, L-Cys, D-Cys, homocysteine, penicillamine,  
 NH2,  
 268 or is absent  
 270 <220> FEATURE:  
 271 <221> NAME/KEY: MISC\_FEATURE  
 272 <222> LOCATION: (35)..(35)  
 273 <223> OTHER INFORMATION: Xaa = Ala, Asp, Arg, Glu, Lys, Gly, L-Cys, D-Cys,  
 homocysteine,  
 274 penicillamine,  
 275 NH2, or is absent  
 277 <220> FEATURE:  
 278 <221> NAME/KEY: MISC\_FEATURE  
 279 <222> LOCATION: (36)..(36)  
 280 <223> OTHER INFORMATION: Xaa = Pro, Ala, L-Cys, D-Cys, homocysteine, penicillamine,  
 NH2,  
 281 or is absent  
 283 <220> FEATURE:  
 284 <221> NAME/KEY: MISC\_FEATURE  
 285 <222> LOCATION: (37)..(37)  
 286 <223> OTHER INFORMATION: Xaa = Pro, Ala, L-Cys, D-Cys, homocysteine, penicillamine,  
 NH2 or  
 287 is absent  
 289 <220> FEATURE:  
 290 <221> NAME/KEY: MISC\_FEATURE  
 291 <222> LOCATION: (38)..(38)  
 292 <223> OTHER INFORMATION: Xaa = Pro, Ala, Arg, Lys, His, L-Cys, D-Dys, homocysteine,  
 293 penicillamine, NH2 or  
 294 is absent  
 296 <220> FEATURE:  
 297 <221> NAME/KEY: MISC\_FEATURE  
 298 <222> LOCATION: (39)..(39)  
 299 <223> OTHER INFORMATION: Xaa = Ser, His, Pro, Lys, Arg, L-Cys, D-Cys, homocysteine,  
 300 penicillamine, NH2 or  
 301 is absent  
 303 <220> FEATURE:  
 304 <221> NAME/KEY: MISC\_FEATURE  
 305 <222> LOCATION: (40)..(40)  
 306 <223> OTHER INFORMATION: Xaa = His, Ser, Arg, Lys, L-Cys, D-Cys, homocysteine,

307

penicillamine, NH<sub>2</sub> or

**RAW SEQUENCE LISTING ERROR SUMMARY**  
**PATENT APPLICATION: US/10/516,490**

DATE: 12/10/2004  
 TIME: 14:12:37

Input Set : A:\X15642.Nat1Phase.ST25.txt  
 Output Set: N:\CRF4\12102004\J516490.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 1,2,6,10,12,13,14,16,19,21,24,27,31  
 Seq#:2; Xaa Pos. 1,2,10,12,16,18,27,31  
 Seq#:3; Xaa Pos. 1,2,6,10,12,13,14,16,19,21,24,27,28,30,31,32,33,34,35,36  
 Seq#:3; Xaa Pos. 37,38,39,40,41,42  
 Seq#:4; Xaa Pos. 1,2,10,16,19,27,28,30,31,32,33,34,35,36,37,38,39,40,41,42  
 Seq#:5; Xaa Pos. 1,2,16,19,27,32,33,34,35,36,37,38,39,40,41,42  
 Seq#:6; Xaa Pos. 1,2,6,10,12,13,14,16,19,21,24,27,28,30,31,32,33,34,35,36  
 Seq#:6; Xaa Pos. 37,38,39,40,41,42,43,44,45  
 Seq#:7; Xaa Pos. 32,33,34,35,36,37,38,39,40,41,42,43,44,45  
 Seq#:8; Xaa Pos. 1,2,6,10,12,13,14,16,19,21,24,27  
 Seq#:9; Xaa Pos. 1,2,10,12,16,19,27  
 Seq#:10; Xaa Pos. 1,2,6,10,12,13,14,16,19,21,24,27,28,30,31,32,33,34,35,36  
 Seq#:10; Xaa Pos. 37,38,39,40,41,42  
 Seq#:11; Xaa Pos. 1,2,10,16,19,27,28,30,31,32,33,34,35,36,37,38,39,40,41,42  
 Seq#:12; Xaa Pos. 1,2,16,19,27,32,33,34,35,36,37,38,39,40,41,42  
 Seq#:13; Xaa Pos. 1,2,6,10,12,13,14,16,19,21,24,27,28,30,31,32,33,34,35,36  
 Seq#:13; Xaa Pos. 37,38,39,40,41,42,43,44,45  
 Seq#:14; Xaa Pos. 32,33,34,35,36,37,38,39,40,41,42,43,44,45  
 Seq#:15; Xaa Pos. 1,2,6,10,12,13,14,16,19,21,24,27,31

**Invalid <213> Response:**

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22



## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/516,490

DATE: 12/10/2004

TIME: 14:12:37

Input Set : A:\X15642.Nat1Phase.ST25.txt

Output Set: N:\CRF4\12102004\J516490.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:94 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0  
M:341 Repeated in SeqNo=1  
L:156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
M:341 Repeated in SeqNo=2  
L:324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0  
M:341 Repeated in SeqNo=3  
L:466 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0  
M:341 Repeated in SeqNo=4  
L:583 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0  
M:341 Repeated in SeqNo=5  
L:762 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0  
M:341 Repeated in SeqNo=6  
L:869 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:16  
M:341 Repeated in SeqNo=7  
L:951 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
M:341 Repeated in SeqNo=8  
L:1008 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0  
M:341 Repeated in SeqNo=9  
L:1160 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0  
M:341 Repeated in SeqNo=10  
L:1286 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
M:341 Repeated in SeqNo=11  
L:1391 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0  
M:341 Repeated in SeqNo=12  
L:1561 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0  
M:341 Repeated in SeqNo=13  
L:1658 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:16  
M:341 Repeated in SeqNo=14  
L:1745 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0  
M:341 Repeated in SeqNo=15